INITIATIVE TO STIMULATE A CAREER IN AGRICULTURAL ENGINEERING AT THE FEDERAL UNIVERSITY OF SERGIPE

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ABSTRACT

The initiative aims at two main objectives: first, a social effort to familiarize students, especially those from public schools, with the Federal University of Sergipe (UFS) and the Agricultural Engineering course, highlighting career opportunities; second, an educational strategy to increase student participation in the National High School Exam (Enem), aiming to improve competitiveness, particularly in less sought-after courses, such as Agricultural Engineering. Visits were made to two schools in the interior of Sergipe, where lectures were given to professionals and students, presenting the Agricultural Engineering course to the students. Before the lecture, a questionnaire was applied to identify the students' level of knowledge about the course. At the end, another questionnaire was also applied to assess the impact of the project. It was found that the students knew little about the Agricultural Engineering course. After the lecture, there was an increase in the interest of students in studying Agricultural Engineering. University students had the opportunity to experience integration, participation in outreach activities, and team collaboration.

Keywords: Education. Bachelor. Agrarian.

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INTRODUCTION

Brazil's progress has resulted in the need for trained professionals to work in various fields of engineering, especially in rural areas and in facilities for processing, agro-industrialization and storage of agricultural products. There is a long tradition of Agricultural Engineering courses in the United States and Canada, as well as in countries such as Spain, Israel, India, Peru and Colombia, where they follow models similar to those in the United States. But in Brazil until 1972 there was no course of this nature. The Agricultural Engineering Course of the Federal University of Pelotas (UFPel) had its creation made official by Ordinance No. 243/72, of October 27, 1972, of the Rectory, being later recognized by Presidential Decree No. 81,295, dated February 2, 1978, and published in the Official Gazette of the Union on February 3, 1978 (LUZ, 2019). Five areas of specialization were initially established for Agricultural Engineering at UFPel: Water and Soil Engineering, Rural Energization, Rural Constructions and Environment, Agricultural Mechanics and Agricultural Product Processing Engineering. These areas, maintained to this day, define the identity of the course. Over time, some of them have undergone minor changes in their nomenclature. The minimum curriculum for undergraduate courses in Agricultural Engineering was determined by the Federal Council of Education (CONFEA) in August 1974, through Resolution 31. In the same year, the UFPel course prepared its complete curriculum. The proposal aims to increase students' knowledge about Agricultural Engineering, expanding awareness in schools in Sergipe, especially in rural areas. The objective is to inform about educational and professional opportunities, highlight the importance of engineering for agricultural sustainability and innovation, and stimulate the interest and engagement of young people in the area. The initiative also seeks to facilitate the contact of students with practical and informative activities, promoting a more positive and comprehensive view of the profession.

THEORETICAL FRAMEWORK

Career choice during high school is a crucial moment for young people, as highlighted by recent researchers (CAZATTI, 2022). Previous studies indicate that the lack of information about higher education options is one of the main factors that contribute to vocational indecision among students (GRINGS and JUNG, 2017). In this scenario, it becomes essential to promote the dissemination of lesser-known courses, such as Agricultural Engineering, so that young people can have access to a wide range of options and make more informed decisions (FERRARI, 2021).

The intersection of agricultural sciences and engineering is key to developing innovative solutions that aim to increase productivity and promote sustainable practices (MACEBO, 2021). In this context, the figure of the agricultural engineer plays a crucial role in advancing sustainable development and ensuring food security. However, it is notable that the Agricultural Engineering course still lacks visibility, which requires the implementation of proactive and effective strategies to promote its importance and attract new talent (SEABRA; MATTEDI, 2017).

Implementing interactive teaching methods, such as lectures and hands-on workshops, can be an effective strategy to capture young people's interest, as suggested by recent studies (Ferreira, 2021). These activities have the potential to establish a direct connection between students and professional reality, which can stimulate engagement and increase enrollment rates. It is essential to adopt approaches that value practical learning and concrete applications, as these are essential to inspire and motivate young people to explore careers in specific areas.

According to some research (Cardoso et al., 2019), a well-structured career orientation can have a significant impact on reducing university dropout and preparing students for the demands of the job market. This type of approach not only helps to strengthen the education system as a whole, but also broadens opportunities and prospects for young people, allowing them to be better prepared to face the challenges of the future. By combining efforts and resources, it is possible to create a more effective and inclusive learning environment.

METHODOLOGY

The present study was carried out in two schools in the interior of the State of Sergipe. The presentation was for high school students from the Berila Alves de Almeida Professional Educational State Center Address: Av. Francisco Pedro Nascimento, S/N - Centro, Nossa Sra. das Dores - SE. The school is located 74.4 km away from São Cristóvão, the city where the UFS Campus is located, which has the Agricultural Engineering course. And for those in High School, from Colégio Estadual Murilo Braga, Itabaiana – SE. The school is located 55.2 km away from São Cristóvão. Before the lecture on the Agricultural Engineering course at the Federal University of Sergipe, 30 students (15 females and 15 males) were randomly chosen from each school to answer the questionnaire that contained the following questions:

1) What is your level of knowledge about Agricultural Engineering?

a) None;

b) Little;

c) Intermediary;

d) Advanced.

2) Have you considered the possibility of studying Agricultural Engineering?

a) Yes;

b) No.

3) What areas do you believe are related to Agricultural Engineering? (Check all the options you think are correct).

a) Grain storage;

b) Rural constructions;

c) Rural electrification;

d) Irrigation/Drainage;

e) Agricultural mechanization.

4) What factors do you consider important for choosing a university course? (Check all the options you think are correct).

a) Personal interest;

b) Labor market;

c) Remuneration;

d) Family influence;

e) Possibility of social impact.

5) Have you ever had contact with any activity related to Agricultural Engineering? (Example: farm visits, experiments, etc.)

a) Yes;

b) No.

At the end of the lecture, the same students received another questionnaire that contained the following questions:

1) What is your level of interest in studying Agricultural Engineering?

a) None;

b) Little;

c) Moderate;

d) Very much.

2) What is your perception of the possibilities of a career in Agricultural Engineering?

a) Few;

b) Some;

c) Many.

3) What aspects of Agricultural Engineering caught your attention the most? (Check all the options you think are correct).

a) Use of innovative technologies in agriculture;

b) Contribution to sustainable development;

c) Integration of engineering and agricultural knowledge;

d) Possibility of working in different sectors of the agricultural production chain.

4) Do you consider that the lecture increased your knowledge about Agricultural Engineering?

a) Yes, considerably;

b) Yes, a little;

c) No, there was no change in my knowledge.

5) Based on the lecture, do you believe that Agricultural Engineering can contribute to solving challenges related to agriculture and the environment?

a) Yes, totally;

b) Yes, in part;

c) No, I don't believe that.

After being applied and answered by the students in person at the end of each presentation, those responsible for the project tabulated the data using an Excel spreadsheet.

RESULTS AND DISCUSSIONS

The implementation of Agricultural Engineering arose from the need to face technological challenges in the field of engineering aimed at the agricultural sector, aiming to develop innovative responses to rural demands, as highlighted by GONÇALVES, R et al. (2011).

According to Marin et al. (2021), social networks are defined as digital platforms that facilitate social interaction in virtual environments, keeping the focus on the people who use them. Based on previous studies, this initiative may generate greater interest in the course in the future, as pointed out by Gomes et al. (2020).

The data obtained reinforce the relevance of digital platforms in the promotion of content related to the Agricultural Engineering course, in line with the observations of Souza et al. (2021). The authors emphasize that these tools act as efficient and easy-to-reach channels for institutional communication, facilitating access to strategic information.

In the schools visited in the interior of the state of Sergipe during the year 2023, 60 students from the last years of high school and technical education were reached, through presentation and interactions with students.

With the application of the questionnaires mentioned above, it was observed that 50% of the interviewees have little knowledge about the Agricultural Engineering course, highlighting the importance of more educational initiatives, especially in the interior of Sergipe. Lack of information is an obstacle to student interest, and outreach efforts are essential to increasing understanding of the educational and professional opportunities available. Of the interviewees, 33.33% considered studying Agricultural Engineering, underlining the need for similar initiatives. Awareness of career opportunities in Agricultural Engineering should be broadened to attract more students. There was a balance in the areas related to Agricultural Engineering mentioned, with 16% highlighting Rural Constructions. This underscores the importance of publicizing other areas, such as water and soil engineering, agricultural mechanization, and agricultural product processing. When choosing a university course, respondents balanced Job market (17.33%) and Personal interest (16.67%), suggesting the need for vocational guidance that considers both job opportunities and individual passions. Surprisingly, 63.33% of the interviewees had never had contact with activities related to Agricultural Engineering, although many were from families of small rural producers. This indicates the need to expand students' exposure to various activities of Agricultural Engineering, such as rural constructions, processing of agricultural products and environmental management. After the lecture, 46.67% of the interviewees showed moderate interest in studying Agricultural Engineering, highlighting the

importance of clarifying and demonstrating more broadly the activities and responsibilities of the profession. Respondents showed a balance in perceptions about career possibilities in Agricultural Engineering, with 50% in each category of "Many" and "Some", indicating positive feedback on information efforts in schools. Regarding the most striking aspects of Agricultural Engineering, 28.09% of respondents highlighted the "Use of innovative technologies in agriculture", reflecting the success of the lectures in attracting attention to innovation in agriculture. After the lecture, 73.33% of the interviewees stated that the presentation significantly increased their knowledge about Agricultural Engineering, reinforcing the positive impact of the educational work carried out. Finally, 63.33% of respondents believe that Agricultural Engineering can contribute to solving agricultural and environmental challenges, highlighting the effectiveness of the lecture in conveying the potential of the discipline to face complex issues and promote sustainable solutions.

Young people living in rural areas are more likely to pursue higher education in agronomic sciences. This trend is in line with the results presented, which reveals that more than 46.00% of the survey participants showed moderate interest in the possibility of studying Agricultural Engineering.

CONCLUSION

Based on the results of this research, they highlight the urgent need for more initiatives to disseminate and raise awareness about Agricultural Engineering, especially in schools in the State of Sergipe. It is crucial to promote a broad understanding of the educational and professional opportunities available, encouraging greater interest and engagement among young people in this area vital to agricultural and environmental development.

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